

WHAT IS CLAIMED IS:

1           1. A vehicle speed measuring apparatus for a vehicle  
2           comprising:

3           vibration detection sensors for detecting vibrations from  
4           a road surface through tires, the vibration detection sensors being  
5           provided at front and rear wheel sides, respectively;

6           an input section through which the vibration detection  
7           sensors input their detection values; and

8           a processing unit for calculating vehicle speed of the  
9           vehicle based on a change pattern of the detection values inputted,  
10           wherein the processing unit in order operates:

11           to feature extract a change pattern of the detection values  
12           for the respective front and rear wheel sides by excluding inherent  
13           tire influences on the detection values when the detection values  
14           are inputted through the input section;

15           to execute pattern matching between the front and rear wheel  
16           sides on the basis of the feature extracted change patterns of  
17           the detection values;

18           to obtain a time difference from a coincidence of the change  
19           patterns; and

20           to calculate vehicle speed based on the time difference and  
21           a reference distance that is previously stored in the vehicle speed  
22           measuring apparatus.

1           2. A vehicle speed measuring apparatus for a vehicle

2 according to claim 1, wherein the vibration detection sensors are  
3 wheel speed sensors.

1 3. A vehicle speed measuring apparatus for a vehicle  
2 according to claim 1, wherein the reference distance is a wheel  
3 base of the vehicle.

1 4. A vehicle speed measuring apparatus for a vehicle  
2 according to claim 2, wherein the reference distance is a wheel  
3 base of the vehicle.